TECHNICAL DATA
DATA SHEET 4203, REV. A

Cool-Mos HERMETIC POWER MOSFET

FEATURES:

- **600 Volt, 0.07 Ohm, 47A MOSFET**
- **Isolated Hermetic Metal Package**
- **Low $R_{DS\ (on)}$; Low Effective Capacitance**
- **Ultra Low Gate Charge; very high dv/dt ratings**
- **Ceramic Seals with Glidcop leads (SHDCG224802)**

MAXIMUM RATINGS

ALL RATINGS ARE AT T_C = 25°C UNLESS OTHERWISE SPECIFIED.

RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	V_{GS}	-	-	±20	Volts
ON-STATE DRAIN CURRENT	I_{D25}	-	-	47	Amps
ON-STATE DRAIN CURRENT T=100 °C	I_{D100}	-	-	30	Amps
PULSED DRAIN CURRENT	I_{DM}	-	-	140	Amps
AVALANCHE ENERGY SINGLE PULSE I_D = 10A, V_{DD} = 50V	E_{AS}	-	-	1800	mJ
AVALANCHE CURRENT	I_{AR}	-	-	20	A
TOTAL DEVICE DISSIPATION	P_D	-	-	300	Watts
REVERSE DIODE dv/dt; I_S = 47A; V_{DS} = 480V	-	-	-	6000	V/µsec
OPERATING AND STORAGE TEMPERATURE	T_J/T_{STG}	-55	-	+150	°C
THERMAL RESISTANCE, JUNCTION TO CASE	$R_{\theta JC}$	-	-	0.5	°C/W

ELECTRICAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNITS
DRAIN TO SOURCE BREAKDOWN VOLTAGE V_{GS} = 0V, I_D = 250µA	BV_{DSS}	600	-	-	Volts
STATIC DRAIN TO SOURCE ON STATE RESISTANCE	$R_{DS(ON)}$				Ω
V_{GS} = 10V, I_D = 30A	Standard	-	0.07	0.08	
T = 150°C	Version	-	0.18	-	
STATIC DRAIN TO SOURCE ON STATE RESISTANCE	$R_{DS(ON)}$				Ω
V_{GS} = 10V, I_D = 30A	Glidcop	-	0.06	0.07	
T = 150°C	Version	-	0.16	-	
GATE THRESHOLD VOLTAGE V_{DS} = V_{GS}, I_D = 2.7 mA	$V_{GS(th)}$	2.1	3	3.9	Volts
FORWARD TRANSCONDUCTANCE V_{DS} = 15V, I_D = 30A	g_{fs}	-	40	-	S(1/Ω)
ZERO GATE VOLTAGE DRAIN CURRENT					
V_{DS} = Max. rating, V_{GS} = 0V, T_J = 25°C	I_{DSS}	-	0.5	25	µA
T_J = 150°C		-	-	250	
GATE TO SOURCE LEAKAGE FORWARD V_{GS} = 20V	I_{GSS}	-	-	100	nA
GATE TO SOURCE LEAKAGE REVERSE V_{GS} = -20V				-100	
TURN ON DELAY TIME V_{DD} = 380V	$t_{d(ON)}$	-	18	-	
RISE TIME I_D = 47A TURN	t_r		27	-	nsec
OFF DELAY TIME V_{GS}=13V	$t_{d(OFF)}$		111	165	
FALL TIME R_G = 1.8Ω	t_f		8	12	
GATE CHARGE V_{DD} = 350V, I_D = 47A, V_{GS} = 10V	Q_g	-	252	320	nC
DIODE FORWARD VOLTAGE I_F = 47A, V_{GS} = 0V Pulse test, t ≤ 300 µs, duty cycle d ≤ 2 %	V_{SD}	-	1.0	1.2	Volts
REVERSE RECOVERY TIME T_J = 25°C, I_F=47A, V_R = 350V di/dt = 100A/µsec	t_{rr}	-	580	-	nsec
INPUT CAPACITANCE V_{GS} = 0 V,	C_{iss}	-	6800	-	
OUTPUT CAPACITANCE V_{DS} = 25 V,	C_{oss}		2200		pF
REVERSE TRANSFER CAPACITANCE f = 1.0MHz	C_{rss}		145		

SENSITRON

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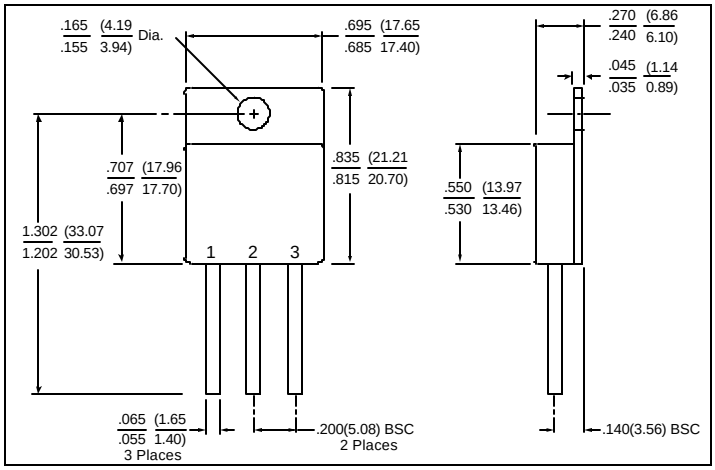
MECHANICAL DIMENSIONS: in Inches / mm



TO-258

DEVICE TYPE	PIN-1	PIN-2	PIN-3
N-CHANNEL MOSFET TO-258 PACKAGE	DRAIN	SOURCE	GATE

TECHNICAL DATA

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